

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In the **PATENT APPLICATION** of:

Zeira et al.

**Application No.:** 09/845,803

**Confirmation No.:** 3229

**Filed:** April 30, 2001

For: DOWNLINK POWER CONTROL FOR  
MULTIPLE DOWNLINK TIME SLOTS IN  
TDD COMMUNICATION SYSTEMS

Group: 2616

Examiner: Raj K. Jain

Our File: I-2-0162.1US

Date: December 22, 2008

**APPEAL BRIEF TO THE BOARD OF PATENT APPEALS  
AND INTERFERENCES PURSUANT TO C.F.R. §41.37(c)**

Mail Stop Appeal Brief -Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Further to the October 22, 2008 Notice of Appeal, the Appellant hereby submits  
this Appeal Brief.

## **TABLE OF CONTENTS**

<b>ITEM</b>	<b>PAGE</b>
(1) REAL PARTY IN INTEREST	3
(2) RELATED APPEALS AND INTERFERENCES	3
(3) STATUS OF CLAIMS	3
(4) STATUS OF AMENDMENTS	3
(5) SUMMARY OF CLAIMED SUBJECT MATTER	3
(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL	6
(7) ARGUMENT	6
(8) CONCLUSION	8
(9) CLAIMS APPENDIX	9
(10) EVIDENCE APPENDIX	12
(11) RELATED PROCEEDINGS APPENDIX	13

**(1) REAL PARTY IN INTEREST**

In this Appeal, the real party in interest is the assignee of record, InterDigital Technology Corporation.

**(2) RELATED APPEALS AND INTERFERENCES**

Appellant and the undersigned representative do not know of any other appeal, interference, or judicial proceeding that is related to, directly affects, is directly affected by, or has a bearing on decision of the Board of Patent Appeals and Interferences (hereinafter the "Board" or the "Board of Appeals") in this Appeal.

**(3) STATUS OF THE CLAIMS**

Claims 31-36 and 40 are rejected. Claims 31-36 and 40 are the subject of this Appeal and are attached in the Claims Appendix. Claims 1-30 and 37-39 are canceled. No other claims are pending.

**(4) STATUS OF THE AMENDMENTS**

Appellant filed a Reply on February 20, 2008, pursuant to 37 C.F.R. §1.111, subsequent to the non-final rejection mailed August 22, 2007, wherein the Appellant amended claims 31, 34, and 40, and argued the allowability of pending Claims 31-36 and 40. On May 22, 2008, a final rejection issued finally rejecting claims 31-36 and 40.

**(5) SUMMARY OF CLAIMED SUBJECT MATTER**

**Independent Claim 31**

Claim 31 is directed toward a spread spectrum time division user equipment using time slots for communication (see page 4, paragraph [0028] and Figure 3A). The user equipment includes an antenna configured to receive data in a command per coded composite transport channel (CCTrCH) transmitted over a plurality of time slots (see pages 4-5, paragraphs [0028 and [0029], and Figure 3A), an interference power

measurement device configured to measure an interference power for each time slot of the plurality of time slots (see page 4, paragraph [0028], and Figure 3A). The antenna is configured to transmit a single power command in response to a signal to interference ratio of the received CCTrCH and the measured interference power measurement for each time slot (see pages 5-6, paragraphs [0031] and [0032], and page 7, paragraph [0036]). The antenna is also configured to receive a subsequent data in the CCTrCH communication having a transmission power level for each downlink communication time slot set individually in response to the interference power measurement for that time slot and the single power command (see pages 4-5, paragraph [0029]).

**Dependent Claim 32**

Claim 32 is directed toward the user equipment of claim 31 wherein the transmission power level of the subsequent data in the CCTrCH communication is set by establishing a transmit power level in response to the single power command and modifying the transmit power level in each time slot in response to the interference power measurement of that time slot (see page 7, paragraph [0036]).

**Dependent Claim 33**

Claim 33 is directed toward the user equipment of claim 31 wherein the interference power measurements are interference signal code power (ISCP) (see page 7, paragraph [0038]).

**Independent Claim 34**

Claim 34 is directed toward a spread spectrum time division base station using time slots for communication (see page 6, paragraph [0033] and Figure 3B). The base station includes an antenna configured to receive a single power command and an interference power measurement for each time slot of a command per coded composite transport channel (CCTrCH) which is transmitted over a plurality of time slots (see

page 6, paragraph [0033] and Figure 3B), and to transmit data in the CCTrCH over the plurality of time slots and the CCTrCH having a transmission power level for each time slot set individually in response to the interference power measurement for that time slot and the single power command (see page 6, paragraph [0035]).

#### **Dependent Claim 35**

Claim 35 is directed to a base station of claim 34 wherein the transmission power level of the CCTrCH communication is set by establishing a transmit power level in response to the single power command and modifying the transmit power level in each time slot in response to the interference power measurement of that time slot (see page 7, paragraphs [0036] and [0037], and Figure 4).

#### **Dependent Claim 36**

Claim 36 is directed toward the base station of claim 34 wherein the interference power measurements are interference signal code power (ISCP) (see page 10, paragraph [0044]).

#### **Independent Claim 40**

Claim 40 is directed toward a spread spectrum time division UE using time slots for communication, the time slots being subject to power control (see page 4, paragraph [0028] and Figure 3A). The UE includes an antenna configured to receive downlink command per coded composite transport channel (CCTrCH) channels (see pages 4-5, paragraphs [0028] and [0029], and Figure 3A), a transmit power calculation device configured to transmit transport power control (TPC) commands (see page 5, paragraph [0029], and Figure 3A), wherein the transmit power calculation device transmits one TPC command per downlink CCTrCH channel (see pages 5-6, paragraphs [0031] and [0032], and page 8, paragraph [0040]); which TPC command corresponds to the average signal to interference ratio (SIR) in all time slots that belong to the same CCTrCH channel (see page 8, paragraph [0040]), and an

interference measurement device configured to perform a downlink interference signal code power (ISCP) measurement for each time slot in the received CCTrCH channel and to transmit the ISCP measurements to a base station (see pages 4-5, paragraphs [0028] and [0029] page 7, paragraph [0038], page 9, paragraph [0044], and Figure 5). The antenna is further configured to receive, in response to the transmission of the ISCP measurement and the TPC command for the CCTrCH channel, a downlink CCTrCH communication having an individual transmission power level for each downlink CCTrCH channel time slot (see pages 4-5, paragraph [0029]).

## **(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 31-36 and 40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miya et al. (U.S. Publication No. 2002/0016177) in view of Endo et al. (U.S. Patent No. 6,035,210).

## **(7) ARGUMENT**

**Claims 31-36 and 40 Meet the Requirements of 35 U.S.C. §103(a) as being patentable over Miya et al. (U.S. Publication No. 2002/0016177), hereinafter referred to as "Miya" in view of Endo et al. (U.S. Patent No. 6,035,210), hereinafter referred to as "Endo".**

Miya illustrates an individual setting of power level for each particular timeslot using multiple transmit power commands (TPC) for each particular timeslot or using a signal to interference ratio (SIR) measurement of that particular timeslot. The present amended claims send a single power command for a CCTrCH which includes a plurality of time slots. Miya deals with this scenario by sending multiple individual TPCs for each timeslot. The present claims use a single power command for the CCTrCH and an interference measurement for each timeslot. Such an arrangement is not disclosed in Miya. In addition, there is no disclosure, teaching, or suggestion in the Miya reference measuring downlink interference signal code power (ISCP) or the ISCP being used to generate a transport power command (TPC).

Endo is cited as disclosing the transmission of interference measurements. However, these interference measurements are not being used in any resemblance as to the manner recited in the claims. Since Miya uses multiple individual timeslot TPCs, there is no reason that an interference measurement would be used in addition to the multiple TPCs. Furthermore, similarly to the Miya reference, there is no disclosure, teaching, or suggestion in the Miya reference measuring downlink ISCP or the ISCP being used to generate the TPC.

Independent claims 31, 34 and 40 all recite, among other things the transmission of a single, or one, TPC per coded composite transport channel (CCTrCH), which is not disclosed, taught or suggested in either the Miya or Endo references. Accordingly, the Appellants' independent claims 31, 34 and 40 are patentable over the Miya and Endo references, whether taken alone or in combination with one another.

Claims 32-33 depend from independent claim 31 and are therefore patentable for at least the same reasons as patentable independent claim 31. In addition, claim 33 recites the interference power measurements are ISCP, which is not disclosed, taught or suggested in either the Miya or Endo references. Accordingly, claim 33 is patentable for this reason as well as its dependence from patentable independent claim 31.

Claims 35-36 depend from independent claim 34 and are therefore patentable for at least the same reasons as patentable independent claim 34. In addition, claim 36 recites the interference power measurements are ISCP, which is not disclosed, taught or suggested in either the Miya or Endo references. Accordingly, claim 36 is patentable for this reason as well as its dependence from patentable independent claim 34.

**(8) CONCLUSION**

For the reasons stated above, pending claims 31-36 and 40 meet the requirements of 35 U.S.C. §103(a) as patentable over the Miya et al. (U.S. Publication No. 2002/0016177) in view of Endo et al. (U.S. Patent No. 6,035,210) references. Accordingly, the final rejection of the claims under 35 U.S.C. §103(a) should be reversed.

Respectfully submitted,

Zeira et al.

By:   
Thomas A. Mattioli  
Registration No. 56,773  
(215) 568-6400

Volpe and Koenig, P.C.  
United Plaza, Suite 1600  
30 South 17<sup>th</sup> Street  
Philadelphia, PA 19103

TAM/yil



**(9) CLAIMS APPENDIX**

(PENDING CLAIMS OF U.S. PATENT APPLICATION NO. 09/845,803)

1-30. (Canceled).

31. A spread spectrum time division user equipment using time slots for communication comprising:

an antenna configured to receive data in a command per coded composite transport channel (CCTrCH) transmitted over a plurality of time slots;

an interference power measurement device configured to measure an interference power for each time slot of the plurality of time slots:

the antenna configured to transmit a single power command in response to a signal to interference ratio of the received CCTrCH and the measured interference power measurement for each time slot; and

the antenna configured to receive a subsequent data in the CCTrCH communication having a transmission power level for each downlink communication time slot set individually in response to the interference power measurement for that time slot and the single power command.

32. The user equipment of claim 31 wherein the transmission power level of the subsequent data in the CCTrCH communication is set by establishing a transmit power level in response to the single power command and modifying the transmit power level in each time slot in response to the interference power measurement of that time slot.

33. The user equipment of claim 31 wherein the interference power measurements are interference signal code power (ISCP).

34. A spread spectrum time division base station using time slots for

communication comprising:

an antenna configured to receive a single power command and an interference power measurement for each time slot of a command per coded composite transport channel (CCTrCH) which is transmitted over a plurality of time slots; and

the antenna configured to transmit data in the CCTrCH over the plurality of time slots and the CCTrCH having a transmission power level for each time slot set individually in response to the interference power measurement for that time slot and the single power command.

35. The base station of claim 34 wherein the transmission power level of the CCTrCH communication is set by establishing a transmit power level in response to the single power command and modifying the transmit power level in each time slot in response to the interference power measurement of that time slot.

36. The base station of claim 34 wherein the interference power measurements are interference signal code power (ISCP).

37-39. (Canceled).

40. A spread spectrum time division UE using time slots for communication, the time slots being subject to power control, comprising:

an antenna configured to receive downlink command per coded composite transport channel (CCTrCH) channels;

a transmit power calculation device configured to transmit transport power control (TPC) commands, wherein the transmit power calculation device transmits one TPC command per downlink CCTrCH channel; which TPC command corresponds to the average signal to interference ratio (SIR) in all time slots that belong to the same CCTrCH channel; and

an interference measurement device configured to perform a downlink interference signal code power (ISCP) measurement for each time slot in the received CCTrCH channel and to transmit the ISCP measurements to a base station; and

wherein the antenna is further configured to receive, in response to the transmission of the ISCP measurement and the TPC command for the CCTrCH channel, a downlink CCTrCH communication having an individual transmission power level for each downlink CCTrCH channel time slot.

**(10) EVIDENCE APPENDIX**

None.

**(11) RELATED PROCEEDINGS APPENDIX**

None.